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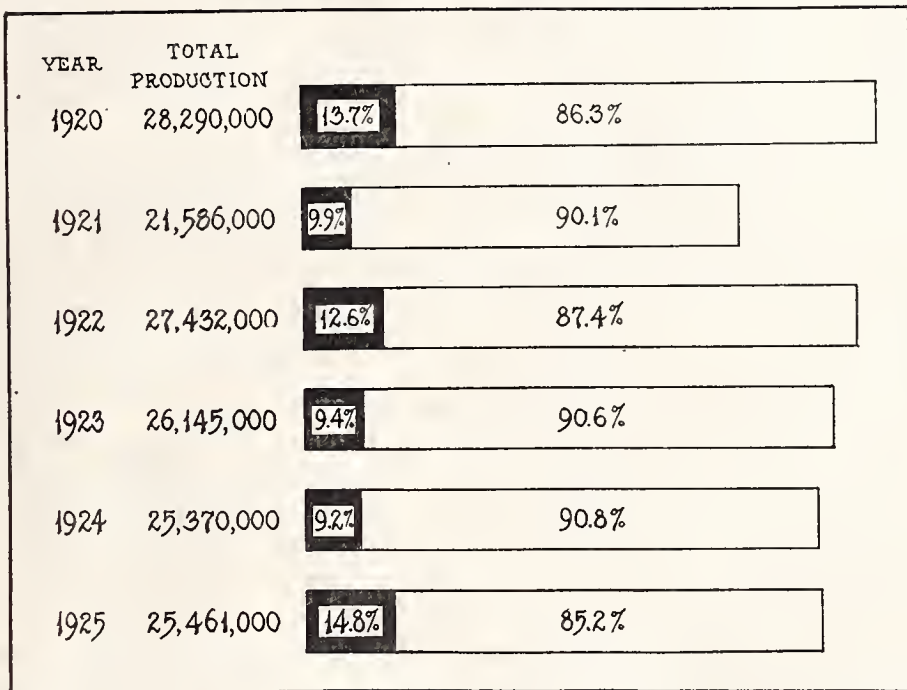
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# Pennsylvania As A Market For Potatoes



Black—Portion of crop shipped by rail. White—Portion of crop used locally.

Local Markets Use Most Pennsylvania Potatoes

F. P. WILLITS, *Secretary of Agriculture*

P. R. TAYLOR, *Director, Bureau of Markets*

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## SUMMARY

Pennsylvania with a population of nine million has twice as many cities of 5,000 to 25,000 population as any other State, in addition to numerous larger cities.

While Pennsylvania is one of the leading potato growing states, there is still great opportunity for increased production of good quality potatoes.

Of the last six crops, an average of only 11.6 per cent of the entire Pennsylvania production has been shipped to market by rail. Practically all of the balance, excepting that portion used for seed, has been sold in local markets without rail transportation.

About 5,000 cars of competitive late potatoes, or approximately 3,000,000 bushels, are being received each year at the 15 cities for which records are available. This number would be increased considerably if complete information for all the markets in the State were available.

As long as this condition exists, Pennsylvania growers need not fear over-production of good quality potatoes, providing the greater use of Pennsylvania potatoes is developed in home markets.

Good quality, well-graded potatoes from Pennsylvania sell for prices equal to or exceeding those of competitive stocks from other states.

Pennsylvania potatoes of only fair quality and grade usually bring prices below competitive receipts. The improvement of quality by the use of good seed, good cultural methods and general adoption of the U. S. Grades in preparing stocks for market is the only way to correct this condition. Only by improving quality can the consumption of Pennsylvania-grown potatoes be increased in the state.

Nearness to consuming centers means higher net returns to Pennsylvania growers than to their competitors. The use of the motor truck makes it possible for local producers to develop nearby markets and in this way frequently to sell directly to the retailer or the consumer and thereby secure a larger percentage of the retail price.

Favorable conditions for production, low transportation costs to unexcelled home markets, and the increased returns through more direct marketing are factors which assure a permanent and profitable potato industry in Pennsylvania.

# PENNSYLVANIA AS A MARKET FOR POTATOES

By W. C. Lynn and D. M. James, Bureau of Markets<sup>1</sup>

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## POTATO CONSUMPTION IN PENNSYLVANIA

Pennsylvania with its population of nine million people forms an enormous market for potatoes, both from this state and from other prominent potato producing states over the eastern half of the country. Nearly sixty-five per cent of Pennsylvania's citizens live in communities of over 2,500 population; fifty-one per cent dwell in towns of over 10,000; and thirty-seven per cent reside in cities larger than 50,000. The state has 150 cities of 5,000 to 25,000 population or about twice as many as any other state. This is the situation, therefore, which commands the attention and interest of all of the nearby potato producing sections.

From 1921 to 1925 the Bureau of Markets has collected records in fifteen large markets of the state to determine the number and the source of cars of fruit and vegetables unloaded in those centers annually. The cities from which such records have been secured comprise almost sixty per cent of the urban population of the state, and are named as follows in order of population: Philadelphia, Pittsburgh, Scranton, Reading, Erie, Harrisburg, Wilkes-Barre, Allentown, Johnstown, Altoona, Lancaster, Bethlehem, York, Williamsport and Easton.

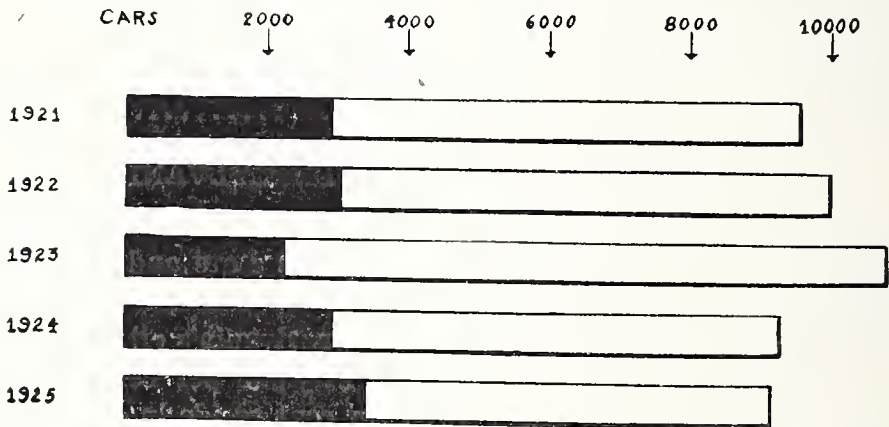
<sup>1</sup>Acknowledgement is due the United States Department of Agriculture for information and helpful cooperation and to the railroads in the State for their willingness to make available all the necessary records for this study.

## SOURCES OF POTATO SUPPLY

**Annual Receipts.** An average of 16,006 cars of potatoes were unloaded in the fifteen markets listed above during each of the past five years. Eighty per cent of these cars moved through Philadelphia and Pittsburgh. The proportion of late and early stock can be divided into about three-fifths late and two-fifths early.

CHART I

Annual Carlot Receipts of Late Potatoes at Fifteen Markets



**Black—Receipts from Pennsylvania. White—Receipts from other Late States.**

The white portion of this chart represents the number of carlots of late potatoes which were received from competitive states each year. All of these might have been produced on Pennsylvania farms without making it necessary to ship potatoes from the state. The very striking trend of increased receipts from Pennsylvania and decreased receipts from other states in 1924 and 1925 should be noted.

**Receipts from Pennsylvania.** About forty per cent of all the late potatoes received in Philadelphia were of Pennsylvania origin, which means that about 2,700 cars of late stock arrived on this market each year from outside sources to compete with the Keystone receipts coming from Lehigh, Berks, Northampton and other southeastern counties. New York and Maine were the chief sources of competitive supplies.

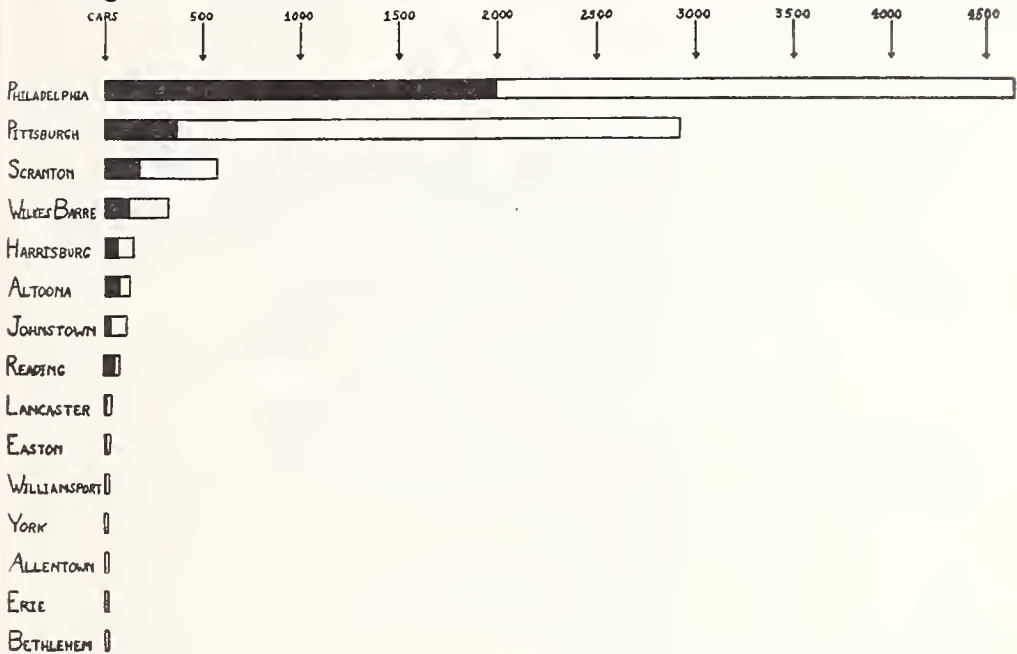
Pennsylvania potatoes are of increasing importance in the Pittsburgh market. In 1925, there were 707 cars of potatoes received from this state as compared with 289 cars in 1924 and 245 in 1923. New York became the chief source of competitive supply in 1925, displacing Michigan while Maine shipments to Pittsburgh were double those of 1924.

Notwithstanding the increased use of Pennsylvania stock, Pittsburgh offers a large and opportune outlet for potatoes produced in western Pennsylvania.



## CHART II

## Average Annual Carlot Receipts of Late Potatoes at 15 Markets—1921-1925



**Black—Receipts from Pennsylvania. White—Receipts from Competitive States.**

This chart shows the large volume of late potatoes from other states which are now being received at Philadelphia, Pittsburgh, Scranton and Wilkes-Barre, for which Pennsylvania potatoes might be substituted. The cities included in the lower portion of the chart are securing practically all of their supply of late potatoes from local sources without rail shipment.

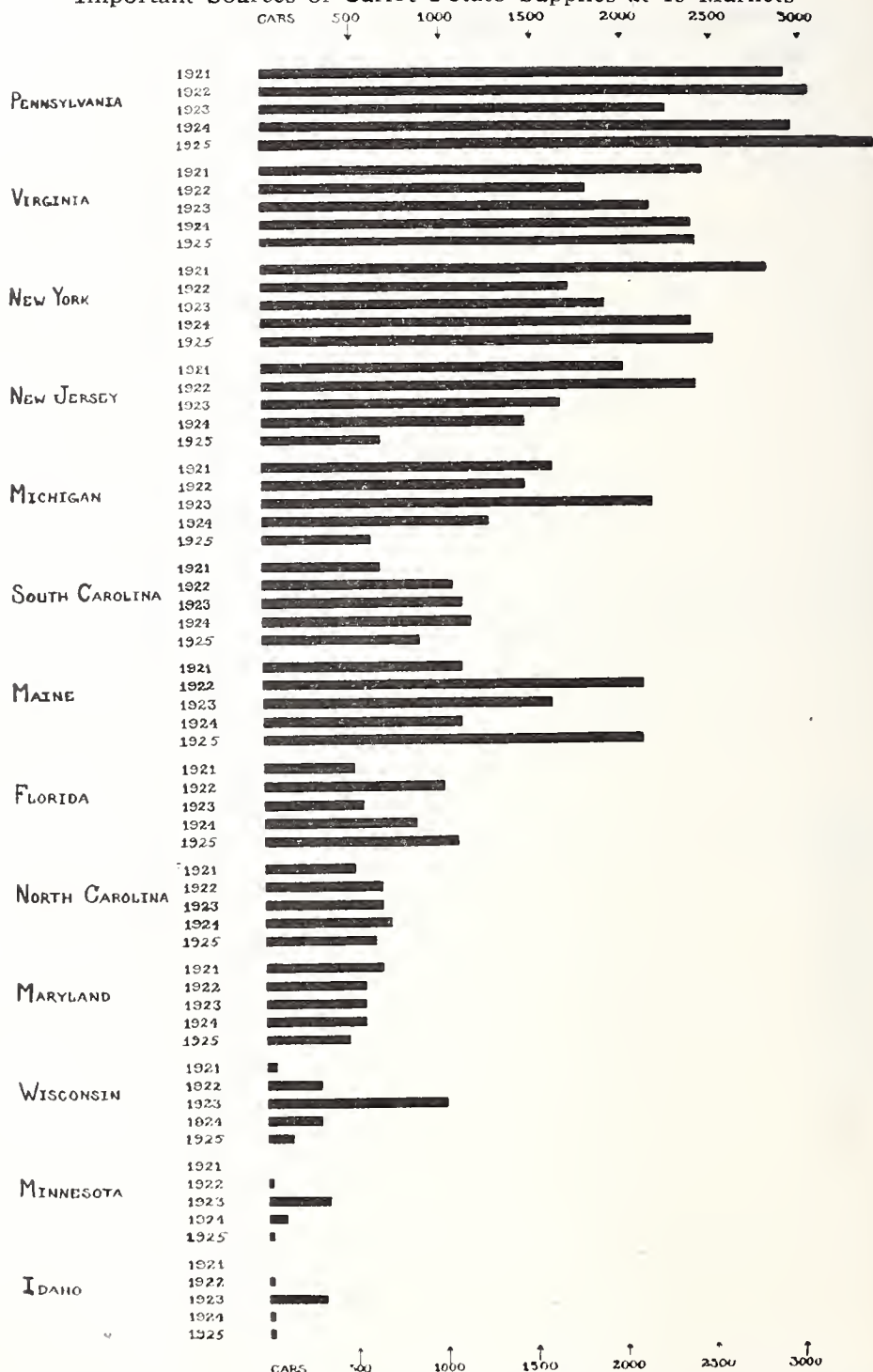
Table 2. Five-Year Average of Potato Receipts (cars)

Market	Late Potatoes from		Early Potatoes	Total Receipts
	Penna.	Other States		
Philadelphia	1,990	2,767	3,439	8,196
Pittsburgh	375	2,561	1,712	4,648
Scranton	179	395	425	999
Wilkes-Barre	131	203	353	687
Harrisburg	59	90	157	306
Altoona	73	66	172	311
Johnstown	28	85	125	238
Reading	48	22	122	192
Erie	2	7	84	93
Allentown	1	9	76	86
Easton	5	10	49	64
Williamsport	6	9	49	63
Lancaster	6	22	31	59
York	3	11	19	53
Bethlehem	3	5	23	31
Total	2,908	6,262	6,836	16,006

The cities of Scranton, Wilkes-Barre, Harrisburg, Altoona, Johnstown and Reading used a proportionately larger amount of Pennsylvania potatoes in addition to local supplies, since one-fourth to one-half of the carlot receipts of late stock in these cities originated in the state. Erie, Allentown, Easton, Williamsport, Lancaster, York and Bethlehem have been light receivers of late potatoes by rail not only from this state but also from other sections. These markets are located in heavy producing areas, and the demand from fall to spring has been satisfied largely by truck and wagon receipts, so that the only carlot unloads were from southern and intermediate dis-

tricts. Comparisons of amounts of early and late potatoes, together with average total receipts, are given in Table 2.

CHART III  
Important Sources of Carlot Potato Supplies at 15 Markets



This chart compares the number of cars received from all important states each year from 1921 to 1925. Rail receipts from Pennsylvania are remaining practically the same, but there is much greater marketing by truck within the state. Receipts from New York are increasing, while those from New Jersey are decreasing, in the latter case partly as the result of the use of the motor truck. Receipts of early stock from southern states are increasing slightly while western sources of supply, especially Michigan and Wisconsin, are becoming of less importance each year.

**Receipts from New York.** During recent years the larger cities of Pennsylvania have been receiving more potatoes from the nearer producing sections. These are in Pennsylvania and New York. Usually whenever the spring or fall receipts from Pennsylvania have been heavy, those from New York have been light, and vice versa. This condition has resulted in uniform receipts from near-by sections.

**Receipts from Maine.** Late potato producing areas further distant have been somewhat irregular in their use of Pennsylvania markets, depending upon crop and market conditions. Maine's large crop of 1921, for instance, underwent a wider distribution over this state than has occurred since that time. This distribution took place in the spring of 1922, thus reflecting a large business for that year. With the exception of this 1921 crop, the receipts from Maine have been heavier in the months following digging rather than in the spring. In 1925, ninety-six per cent of the Maine business was done in the two markets of Philadelphia and Pittsburgh, and mostly in the former city.

**Receipts from Western States.** Michigan, Wisconsin, Minnesota and Idaho, following the big crop of 1922 in that section, shipped heavily to Pennsylvania during the first six months of 1923. This was especially true of Michigan, from which most of the potatoes came.

Receipts from this section have a tendency to be heavy in the spring months and lighter in the fall period. Supplies from the lake region dropped off noticeably in 1924 and 1925, due to large crops of Pennsylvania potatoes which were of better than average quality. This was most marked in the two markets of Wilkes-Barre and Scranton, which collectively reported 338 cars from this area in 1923. In 1925 a dozen cars were received by these two markets from the lake region. This difference was promptly replaced by stock from local and New York sections. During the year of 1925 seventy-five per cent of the receipts from Michigan and neighboring states were confined to the Pittsburgh market.

**Receipts from Southern States.** Since early potatoes from the more southern states compete in the spring months with Pennsylvania stock, some mention should be made of their activity and influence during the past few years. The Florida, Virginia and New Jersey business has been one of wide irregularity due to seasonal growing conditions. The Carolinas, however, have been steadily increasing their shipments to Pennsylvania markets, so that the 1925 receipts from this district were thirty per cent greater than those of 1921. Receipts from Maryland have been about steady with a yearly average of nearly 550 cars.

## SEASONAL VARIATION IN SUPPLY

A study of the carlot receipts in Pennsylvania shows that each year the heaviest movement into the state occurred in the summer months. This is natural because of the absence of local supply. A secondary peak occurred during the fall period immediately following the digging of potatoes in all the late producing states. More Pennsylvania stock was received in the markets at this time than

CHART IV

Monthly Carlot Potato Receipts at 15 Markets

CARS

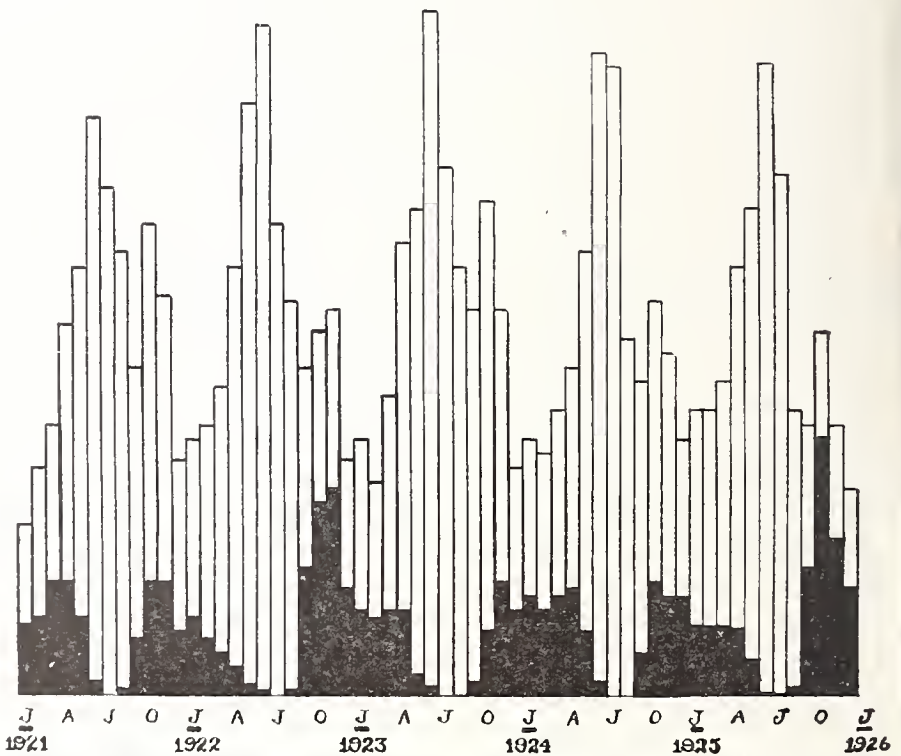
2500→

2000→

1500→

1000→

500→



Black—Receipts from Pennsylvania. White—Receipts from Other States.

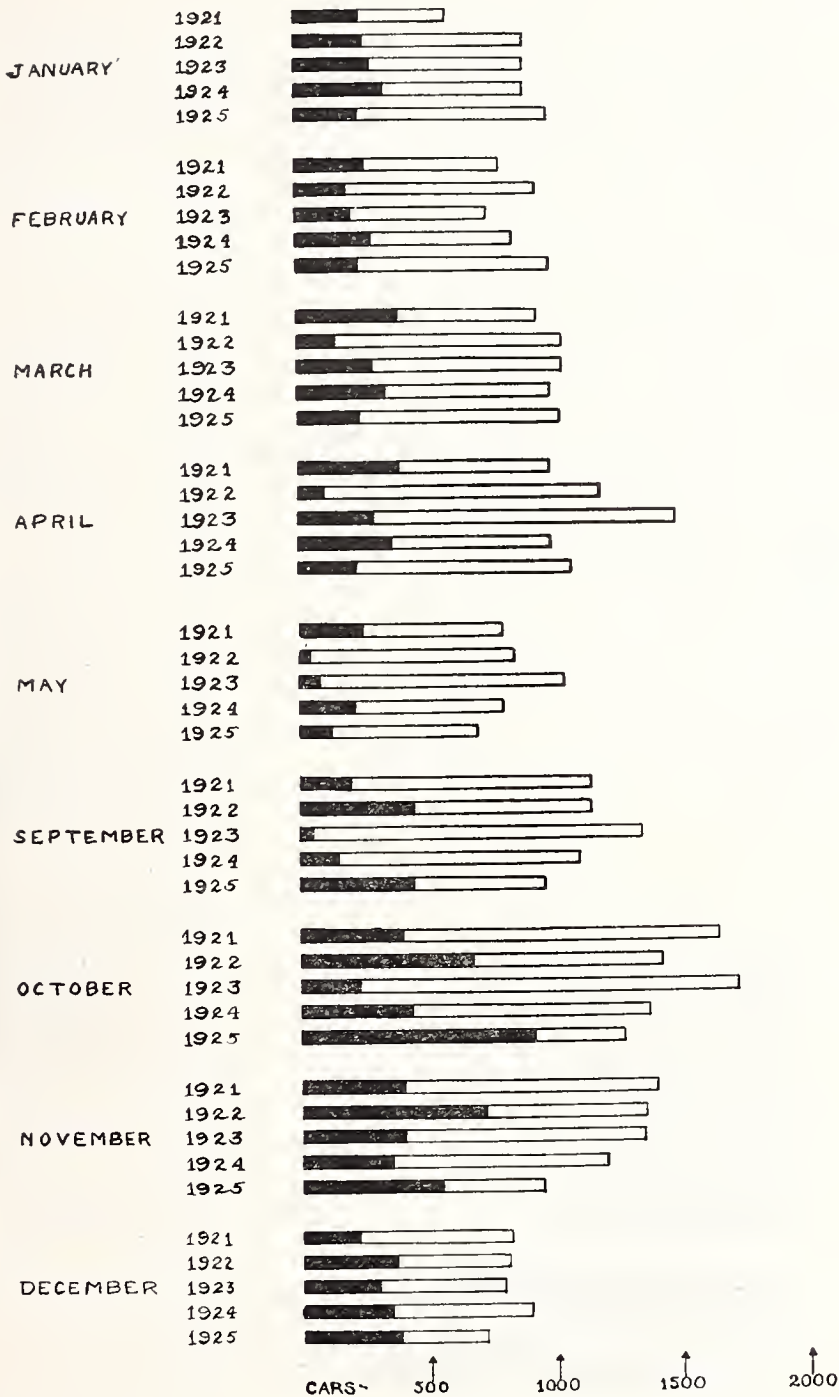
This chart shows the total number of cars actually received at fifteen markets during each month. The largest number of carloads were received during June of each year with May or July usually next in rank. Part of this increase is due to the fact that the minimum carload quantity is 500 bushels at this season, as compared with 600 bushels during the marketing of the late crop. During June, July and early August, local supply is limited so that southern states are practically the only sources of supply.

in any other season during the year. It has also been the rule that more Pennsylvania potatoes moved in interstate commerce in the fall than at any other time. Much of this movement has been to New York City and Baltimore. An examination of receipts during the spring months has revealed the tendency to market fewer potatoes in the fall and more in the spring. If this tendency continues it will result in a more orderly marketing scheme with the probability



## CHART V

## Carlot Receipts by Months at 15 Markets



Black—From Pennsylvania.

White—From Other States.

This chart shows that the largest quantity of Pennsylvania potatoes usually reach the 15 markets during October, November and December of each year. It also shows that receipts during the balance of the winter and spring months are quite uniform, about one quarter being received from Pennsylvania. This latter period should be given more consideration by Pennsylvania producers.

of eliminating to some extent the usual after-digging glut now existent. Fewer potatoes have been shipped from the state in the spring, and more shipments at that period went to the larger markets.

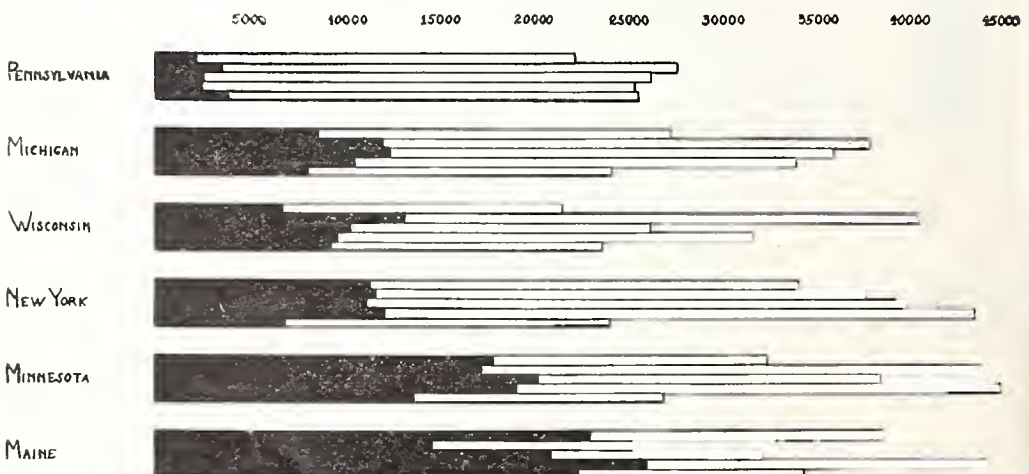
### PENNSYLVANIA PRODUCTION AND SHIPMENTS

During the five years (1921-1925) Pennsylvania had an average potato acreage of 235,200 and an average production of 25,198,800 bushels. Since 1880 there has been a gradual increase in the acreage planted to potatoes reaching its highest point in 1917. The yield per acre has also increased greatly during the past thirty years, being about 70 bushels for the five years 1888-1892, and 108 bushels for the five years 1921-1925. This increase amounting to more than 50 per cent is no doubt due to several factors, among them being improved seed strains and varieties, the control of diseases and insects by the use of disease-free seed and better spraying methods and equipment. With this successful control has also come more thorough cultivation and greater use of fertilizers.

**Rank in Production.** During the past four or five years Pennsylvania has consistently been one of the leading potato producers of the country. This state has shown the steadiest tendency in production, ranking fifth for four years, dropping to sixth place in 1924, and rising to third place in 1925. New York and Michigan have consistently ranked with the first five. The increased production in Minnesota has given that state first or second place during

CHART VI

Annual Production and Shipment of Six Leading Potato States 1921-1925



**Black**—Bushels shipped during the five marketing seasons in thousands of bushels.

**White**—Estimated production not shipped in thousands of bushels.

This chart shows the uniform size of the Pennsylvania potato crop as compared with the wide fluctuation in production in the other states. It also shows the small proportion of each crop in Pennsylvania that was shipped by rail, as compared with the shipments in other states which average as high as half the crop in Minnesota and Maine. Most of the potatoes represented by the white area in Pennsylvania are marketed locally while many of them in the other states are not marketed.

the past four years. Maine and Wisconsin, the other two of the six leading potato producers, have fluctuated among the first six places during the past five years, due to much greater variation in production. In one or two seasons, crop increases occurred in these two states which amounted to as high as seventy-five and ninety per cent over the preceding year. The six states named annually produce an average of nearly fifty per cent of the total United States crop, including early stock. The rank of the six leading potato producing states is given as follows:

Table 3. Rank of Leading Potato Producing States

	1920	1921	1922	1923	1924	1925
1.	New York	Maine	Minnesota	Minnesota	New York	Maine
2.	Michigan	New York	Wisconsin	New York	Minnesota	Minnesota
3.	Wisconsin	Minnesota	Michigan	Michigan	Maine	Pennsylvania
4.	Minnesota	Michigan	New York	Maine	Michigan	Michigan
5.	Pennsylvania	Pennsylvania	Pennsylvania	Pennsylvania	Wisconsin	New York
6.	Maine	Wisconsin	Maine	Wisconsin	Pennsylvania	Wisconsin

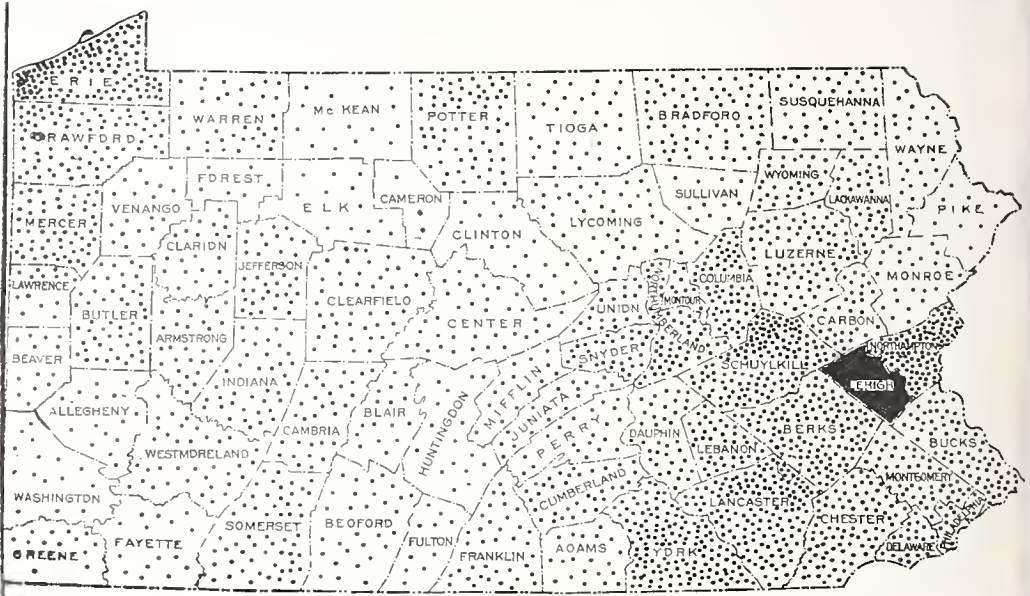
**Rank in Shipments.** Pennsylvania, although one of the leaders in production, does not rank high among the carlot shippers. This state is not forced to resort to commercial shipping to such a degree as the other large producers, because of the home market demands. As brought out heretofore, shipping beyond the state's borders has occurred principally at digging time.

Table 4. Rank of Leading Potato Shipping States

	1920 Crop	1921 Crop	1922 Crop	1923 Crop	1924 Crop	1925 Crop
1.	Minnesota	Maine	Minnesota	Maine	Maine	Maine
2.	Wisconsin	Minnesota	Maine	Minnesota	Minnesota	Minnesota
3.	Maine	Virginia	Wisconsin	Michigan	Virginia	Idaho
4.	New Jersey	New York	Michigan	New York	New York	Virginia
5.	Michigan	Colorado	New York	Wisconsin	Michigan	Wisconsin
6.	Virginia	Michigan	Virginia	Virginia	Wisconsin	Colorado
7.	New York	Idaho	New Jersey	Idaho	Colorado	Michigan
8.	Colorado	Wisconsin	Idaho	Colorado	Idaho	New York
9.	California	North Dakota	Colorado	North Dakota	New Jersey	Washington
10.	Idaho	New Jersey	N. Dakota	New Jersey	Washington	Pennsylvania
11.	Pennsylvania	California	California	Washington	California	-----
12.	-----	Washington	Pennsylvania	California	N. Carolina	-----
13.	-----	Nebraska	-----	Nebraska	N. Dakota	-----
14.	-----	N. Carolina	-----	S. Carolina	S. Carolina	-----
15.	-----	Pennsylvania	-----	Pennsylvania	Kansas	-----
16.	-----	-----	-----	-----	Florida	-----
17.	-----	-----	-----	-----	Pennsylvania	-----

# CHART VII

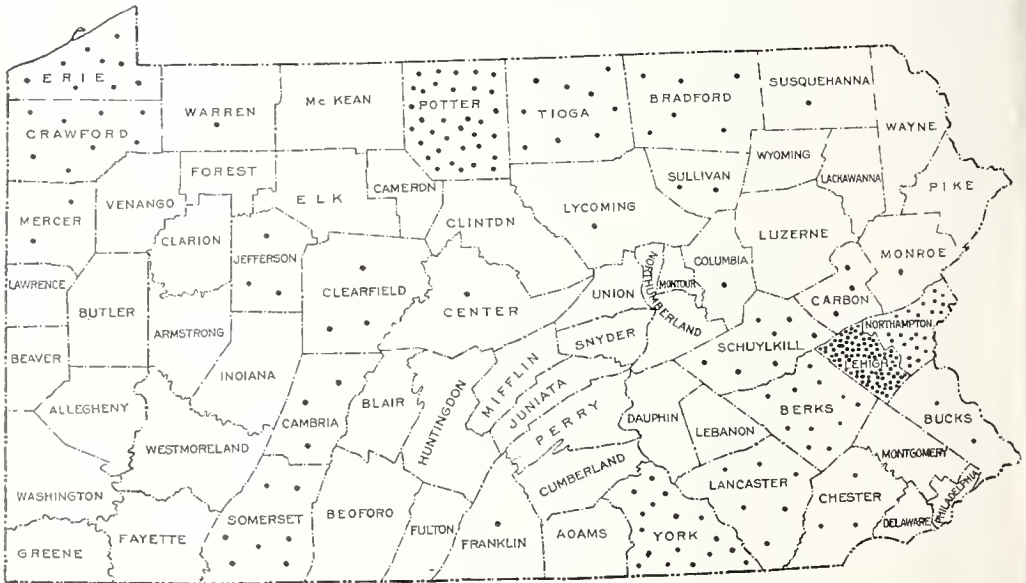
## Production of Potatoes in Pennsylvania in 1924.



Each dot represents 10,000 bushels.

# CHART VIII.

## Shipments of Pennsylvania Potatoes from the 1924 Crop.



Each dot represents 10,000 bushels.

Reference has been made to the heavy movement of potatoes into Pennsylvania during the summer, with a secondary peak of receipts during the fall. This, however, does not apply to country-wide shipments, which have always reached the high mark for the year in October and November, followed by the lightest shipments for the year in December.

A reduction is gradually occurring in the heavy October shipments, the lighter December movement is increasing slightly, and



the whole leveling-off process is bringing more of the old stocks into spring markets. Table 5 gives the number of cars received monthly in Pennsylvania markets and country-wide shipments for five years.

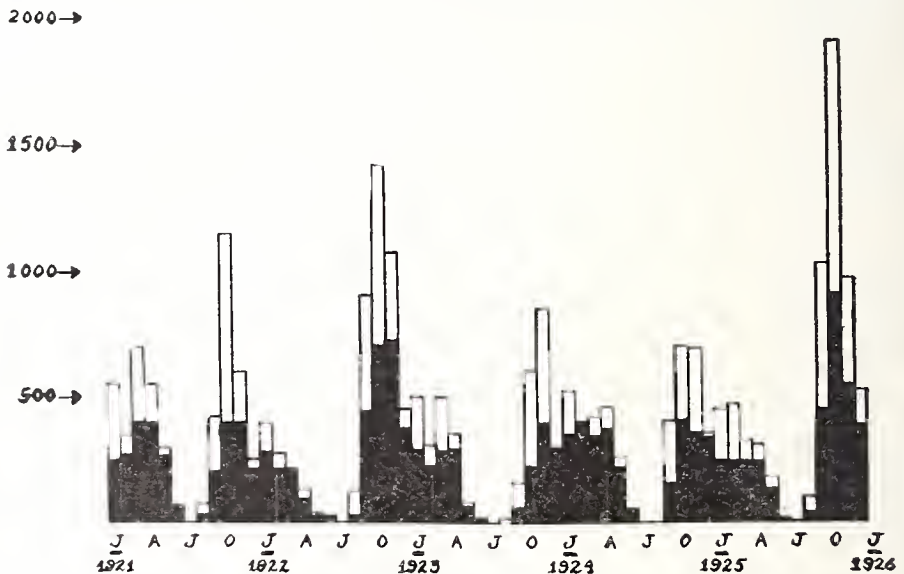
Table 5. Potato Receipts and Shipments

Month	Receipts in 15 Pa. Markets		Shipments	
	From all states	From Penna.	From Penna.	From all states
<b>1921</b>				
January	610	259	550	14,106
February	786	278	397	11,970
March	953	407	717	16,154
April	1,287	408	564	14,893
May	1,499	269	291	14,987
June	2,018	65	15	17,645
July	1,771	9	3	17,041
August	1,548	31	69	16,115
September	1,167	504	426	26,040
October	1,652	390	1,182	43,250
November	1,405	389	578	16,729
December	826	218	241	10,496
<b>Total</b>	<b>15,522</b>	<b>2,927</b>	<b>5,033</b>	<b>219,426</b>
<b>1922</b>				
January	904	270	412	16,705
February	954	219	286	13,718
March	1,083	156	211	22,330
April	1,500	94	121	20,047
May	2,074	35	36	20,214
June	2,344	43	1	22,080
July	1,652	6	1	18,829
August	1,379	27	124	18,238
September	1,161	443	893	24,420
October	1,280	676	1,432	35,188
November	1,348	722	1,176	21,051
December	822	374	444	12,439
<b>Total</b>	<b>16,501</b>	<b>3,065</b>	<b>5,137</b>	<b>245,209</b>
<b>1923</b>				
January	891	294	492	17,261
February	740	230	290	14,606
March	1,060	284	496	24,462
April	1,573	292	318	23,190
May	1,717	81	74	16,300
June	2,394	37	10	20,294
July	1,859	4	2	16,733
August	1,490	8	31	16,785
September	1,363	64	178	24,044
October	1,721	236	584	35,220
November	1,369	400	834	20,732
December	797	328	288	11,977
<b>Total</b>	<b>16,974</b>	<b>2,258</b>	<b>3,647</b>	<b>241,554</b>
<b>1924</b>				
January	907	354	534	19,747
February	852	300	393	20,706
March	995	344	428	22,932
April	1,153	376	468	19,461
May	1,560	230	259	18,725
June	2,241	59	45	20,968
July	2,193	7	3	22,997
August	1,260	7	5	16,312
September	1,113	160	372	21,364
October	1,371	408	738	33,721
November	1,180	364	690	20,191
December	894	340	329	12,757
<b>Total</b>	<b>15,719</b>	<b>2,949</b>	<b>4,264</b>	<b>249,821</b>
<b>1925</b>				
January	998	246	450	21,159
February	995	240	481	19,886
March	1,083	242	329	20,862
April	1,516	232	317	19,536
May	1,710	128	171	19,400
June	2,301	10	12	19,976
July	1,832	2	2	17,468
August	1,002	32	96	14,326
September	957	449	1,000	22,763
October	1,267	913	1,907	32,548
November	958	550	979	15,980
December	721	383	531	11,123
<b>Total</b>	<b>15,340</b>	<b>3,427</b>	<b>6,308</b>	<b>235,027</b>

**Leading Pennsylvania Potato Counties.** All counties in the state are producers of potatoes, but the commercial area is fairly well confined to the southeastern and northern tier counties. In most of the other counties home consumption absorbs the bulk of the local crop, supplemented in some instances by trucking to near-by consuming areas outside the county. This is especially true in the vicinity of the larger centers of population, such as Philadelphia, Allegheny, Dauphin, Luzerne and Lackawanna, and surrounding counties.

CHART IX

Monthly Shipments and Receipts of Pennsylvania Potatoes at 15 Markets



Entire bar—Cars shipped at Pennsylvania points each month.

Black—Cars of Pennsylvania potatoes received at 15 Markets each Month.

Heaviest shipments of Pennsylvania potatoes occur during October or November. During the fall months quite a large portion of these shipments go to smaller markets or to points outside the state. The relatively smaller shipments after the large crops of 1920, 1923 and 1924 indicate that local markets are used to a greater degree after a large crop than after a small one.

The strictly commercial area of the state is indicated by the carlot shipments each year. With the exception of Lehigh County, the heaviest producers are not necessarily the heaviest shippers. Schuylkill, Lancaster and Erie are typical of the heavier producers which dispose of a large proportion of their crop through local channels. Some counties of moderate production, such as Potter and Somerset, usually rank high among the shippers because of fewer near-by outlets. During the past six years an average of less than twelve per cent of Pennsylvania's potatoes have been shipped by rail. The remainder were sold locally or trucked to near-by markets as stated before. It has been found that the percentage of shipments usually varies directly with the amount of production in the state. This is logical, since in seasons of a light crop in the state, a proportionately

large amount of stock will be kept on hand to satisfy home demands. However, unusual market conditions throughout the country may cause this relation to vary, as was the case in marketing the 1925 crop. Tables below give the rank of the leading potato producing and potato shipping counties for the past few years.

Table 7. Leading Potato Producing Counties

1921 Crop	1922 Crop	1923 Crop	1924 Crop	1925 Crop
Lehigh Luzerne Schuylkill Erie York	Lehigh York Berks Schuylkill Lancaster	Lehigh Schuylkill Erie Berks Northampton	Lehigh Lancaster York Schuylkill Erie	Lehigh Berks Schuylkill Lancaster York

Table 8. Leading Potato Shipping Counties

1921 Crop	1922 Crop	1923 Crop	1924 Crop	1925 Crop
Lehigh Potter York Tioga Berks	Lehigh York Potter Berks Lancaster	Lehigh Potter Northampton Somerset York	Lehigh Potter Northampton Berks Erie	Lehigh Potter Northampton Berks York

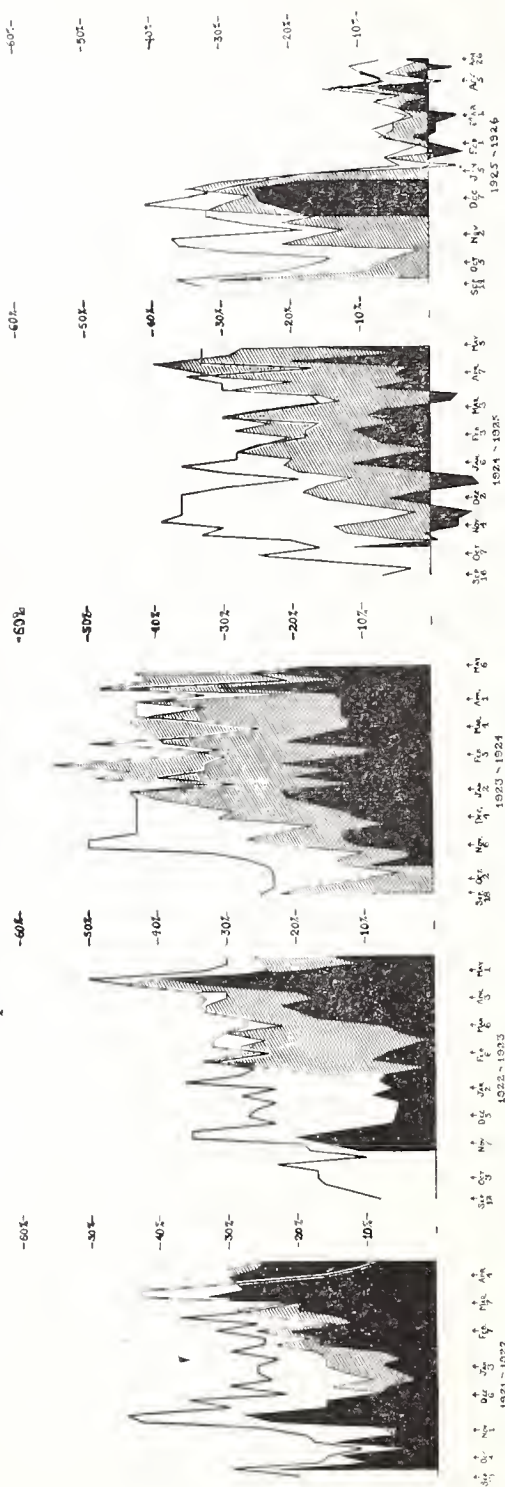
### PRICE COMPARISONS

**Good Potatoes Bring Premium Prices.** Pennsylvania potatoes of good quality command premiums on the market. In Philadelphia the highest priced late potatoes are the best Pennsylvanias, while the lowest as a rule are also from this state, but of a much inferior quality. Using the price for this cheaper stock as a base, it was found that high quality Pennsylvania stock consistently brought advanced prices, averaging fully one-fourth more than the low grade offerings. Small premiums have generally been paid at the beginning of the season, but have increased materially as the winter potato market is stabilized.

**Prices in Philadelphia.** It has been of interest to note the price reaction of Maine potatoes on the Philadelphia market. Fall prices have not been high but have increased each year into a heavy spring business, the premiums of which have reached, and in some instances surpassed those of high quality Pennsylvanias.

New York, which ships heavily to Philadelphia, has not exhibited the same favorable conditions. Stocks from that state have netted lower premiums than the other two states have experienced, and at certain periods during the past two years were even selling below the basic, or low Pennsylvanias. Inexplicably, this condition is exactly the reverse of that existing on the Pittsburgh market, of which more will be said later. The point to be emphasized, however, is the position which Pennsylvania potatoes of high grade hold in Philadelphia, a market forty per cent of whose supply of late potatoes are from this state, principally from the southeastern section.

# CHART X Comparison of Prices of Potatoes at Philadelphia



**Base line (100%) — Lowest quotation for Pennsylvania potatoes.**  
**Black area — Premium (in per cent) in average price of New York potatoes over low Pennsylvania quotation.**  
**Lined area — Premium (in per cent) in average price of Maine potatoes over low Pennsylvania quotation.**  
**Black line — Premium (in per cent) in the highest Pennsylvania price over lowest Pennsylvania quotation.**

The purpose of this chart is to compare the quality of Pennsylvania, New York and Maine potatoes as represented by prices actually paid on the Philadelphia market weekly from 1921-25. There has always been a wide variation in the price of Pennsylvania potatoes on this market, it was used as 100% and divided into the three other quotations. The result (in per cent) indicates the difference in price of the potatoes on sale during that particular week. Striking points shown are the fluctuation of prices of New York potatoes from season to season, depending on the quality of the crop and the steady improvement in the relative prices of Maine stock because of better quality and grading. Pennsylvania growers should especially note that there has consistently been a difference of from 20 to 40% in the prices paid for Pennsylvania potatoes on the Philadelphia market, this difference being due to the quality and grade of the stock. Proper seed, spraying and grading should raise this lower price much nearer to the upper quotation. After January 1, 1926, the percentage difference between the various grades was very much reduced by the high price of all potatoes and the generally good quality of all Pennsylvania potatoes.



**Prices in Pittsburgh.** Somewhat the same case is true in Pittsburgh, as far as Pennsylvania's standing is concerned. Here, however, the high quality of Pennsylvania stock is about equivalent but the quantity is far less. Also, inferior Pennsylvania stocks are not offered to the extent that they are in the larger markets further east. In Pittsburgh, prices on Michigan potatoes were used as the base from which to compute premiums. Here it developed that Pennsylvanias obtained some premium, though more erratic and not as high as in Philadelphia, inasmuch as the average for the past five years was only about one-sixth better than the base.

With respect to Pittsburgh's premium for New York stocks, prices have generally run hand in hand with Pennsylvania. Why two extremes exist on New York stock in Pittsburgh and Philadelphia can probably be accorded more accurately to market likes and dislikes rather than to actual grade variations. Maine, shipping only a limited number of high quality potatoes into Pittsburgh, appears in the group with high premiums out of proportion with the remainder. This, however, conclusively proves a statement which is frequently difficult for some growers to see, namely, that "prices vary directly with quality," other things being equal.

The reaction of Wisconsin stocks on the Pittsburgh market compares fairly well with New York potatoes in Philadelphia. During the past four years they have averaged about on a par with and slightly higher than the Michigan prices. Wisconsin receipts, however, have naturally followed the state's erratic production, and therefore have been a sizeable, but not dependable factor on the Pittsburgh market.

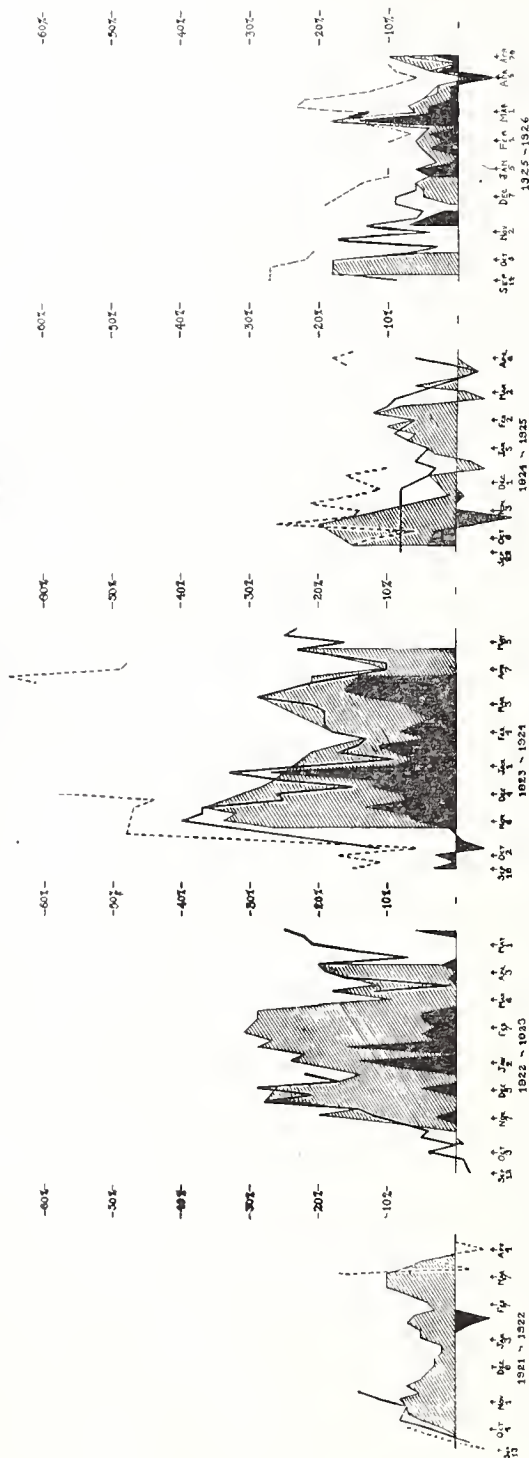
**Market Prices.** The factor of major importance to the Pennsylvania grower is the price at which outside stock can be shipped into the state in competition with his own crop. It is impossible to predict future prices but past experience for several years should be a fairly safe indicator.

Fortunately monthly average prices were available as the result of a study of the Altoona market made in 1923. These records which covered the period from August 1920 to July 1923 were completed up to May 1926, so that they cover a six-year period, with the exception of four months in 1923 for which records were not available. This information is included in Table 9 which gives the actual price delivered at Altoona, and the most important sources of supply for that period.

The prices shown indicate that at no time was the monthly average price of the competitive product delivered at Altoona below 60 cents per bushel and the average price per bushel for the months from September to May, inclusive, was \$1.12 for the five years. During this period the average freight costs per bushel of stock sold in Altoona was 17 cents.

# CHART XI

## Comparison of Prices of Potatoes at Pittsburgh



**Base Line (100%)**—Lowest quotation for Michigan potatoes.  
**Black area**—Premiums (in per cent) in price of average Wisconsin potatoes over the low Michigan quotation.  
**Lined area**—Premiums (in per cent) in price of average New York potatoes over low Michigan quotation.  
**Dotted line**—Premiums (in per cent) in average price of Maine potatoes over low Michigan quotation.  
**Black line**—Premiums (in per cent) in the average Pennsylvania price over the low Michigan quotation.

The purpose of this chart is to compare the quality of Pennsylvania, Michigan, Wisconsin, New York and Maine potatoes as represented by prices actually paid on the Pittsburgh market weekly from 1921-25. As the poorer grade of Michigan stock, was most consistently the lowest quotation on the market, it was used as 100% and divided into the other four quotations. The result (in per cent) indicates the difference in price of the potatoes on sale during that particular week. As in the Philadelphia market, the New York and Maine quotations fluctuate a great deal, indicating wide variations in the quality of the stock on the market from these states. The Pennsylvania quotations are more variable in Pittsburgh than in the Philadelphia market and are generally higher than all other quotations except for the Maine stock.

TABLE 9\*

## Monthly Average Cost of Potatoes Delivered at Altoona 1920-1925

Months	PRICES IN DOLLARS PER BUSHEL							Main Points of Production
	1920	1921	1922	1923	1924	1925	1926	
	Carlot Price	Carlot Price	Carlot Price	Carlot Price	Carlot Price	Carlot Price	Carlot Price	
January -----		.97	1.40	.72	.90	.72	2.12	Mich., N. Y., Pa., Me.
February -----		.78	1.32	.60	.90	.80	2.80	Mich., N. Y., Pa., Me.
March -----		.94	1.10	.80	.90	.72	2.90	Mich., N. Y., Pa., Me.
April -----		.85	1.05	1.68	.90	.62	2.90	Me., Pa., Fla., N. Y.
May -----		.60	.92	1.40	3.33	.80		Me., N. Y., Fla.
June -----		1.27	1.13	2.16	2.00	1.77		Me., Va., S. C.
July -----		1.49	.95	1.87	1.10	2.10		Va., N. C., Md.
August -----	1.62	1.59	.73	1.61	.83	1.25		N. J., Va., Md.
September -----	1.05	1.26	.67		.94	1.00		Pa., N. Y.
October -----	1.12	1.18	.70		.82	1.00		Pa., N. Y.
November -----	1.05	1.15	.62		.82	1.50		Pa., N. Y.
December -----	1.27	1.12	.66		.82	2.00		Mich., N. Y., Pa.

\*Table from Pennsylvania State College Agricultural Experiment Station, Bulletin 184, brought up to date through the courtesy of R. B. Dunlap.

## ADVANTAGE OF NEARNESS TO MARKET

Nearness to market is one of the greatest advantages of Pennsylvania potato grower. The extent of this advantage is not generally realized. On the same selling price in Philadelphia, the potato grower in southeastern Pennsylvania receives at least 20 cents per bushel more than the Maine or Michigan potato grower. Western Pennsylvania points have an advantage of approximately 10 cents per bushel over Michigan shipping districts, and even Lehigh County points can reach this market at lower cost than any other important potato district except New York. Because of distance and prevailing rates, western New York has comparatively low shipping costs to all markets of Pennsylvania.

With increase in mileage of good roads and the production of potatoes in all parts of the state, the smaller centers of population, as well as the larger cities, are securing a steadily increasing portion of their supply by motor truck from the immediately surrounding territory.

From the above facts, it is evident that the Pennsylvania potato grower has an advantage of from 10 to 25 cents a bushel in freight costs over his competitors in other than adjacent states.

Favorable conditions for production, low transportation costs to unexcelled home markets, and the increased returns through more direct marketing are natural advantages which assure a permanent and profitable potato industry in Pennsylvania. These advantages, however, are dependent upon the production of standard varieties desired by buyers, close grading to make the Pennsylvania Product better than the potatoes from competing areas, and marketing methods which will supply to the fullest extent the needs of Pennsylvania consumers.



TABLE 10

## Freight Rates From Various Shipping Points To Pennsylvania Markets

These rates include only transportation charges. Service and other extra charges not included.

## POTATOES

SHIPPING POINT	TO PHILADELPHIA			TO HARRISBURG			TO SCRANTON			TO PITTSBURGH		
	Cwt.	Bu.	150 lb. sack	Cwt.	Bu.	150 lb. sack	Cwt.	Bu.	150 lb. sack	Cwt.	Bu.	150 lb. sack
Macungie, Pa. -----	.19	.11½	.28½	.21½	.13	.32½	.25	.15	.37½	.32	.19	.48
Stewartstown, Pa. -----	.22	.13	.33	.22	.13	.33	.23	.17	.42	.31	.18½	.46½
Somerset, Pa. -----	.31	.18½	.46½	.30	.18	.45	.31	.18½	.46½	.19	.11½	.28½
Coudersport, Pa. -----	.32½	.19½	.49	.32½	.19½	.49	.28½	.17	.43	.26½	.16	.40
Caribou, Maine -----	.60	.36	.90	.65½	.39½	.98½	.60	.36	.90	.60½	.38½	.91
Freehold, N. J. -----	.19½	.11½	.29½	.28½	.17	.43	.28½	.17	.43	.34	.20½	.51
Wayland, N. Y. -----	.28½	.17	.43	.28½	.17	.43	.28½	.17	.43	.27	.16	.40½
Cadillac, Mich. -----	.58	.35	.87	.57	.34	.85½	.58	.35	.87	.38	.23	.57
Waupaca, Wisc. -----	.65	.39	.97½	.64	.38½	.96	.65½	.39½	.98½	.44½	.26½	.67
Moorhead, Minn. -----	.80½	.48½	1.21	.80½	.48½	1.21	.81	.48½	1.21½	.60	.36	.90

# PENNSYLVANIA DEPARTMENT OF AGRICULTURE

## Organization and Services

FRANK P. WILLITS, *Secretary* ..... JOHN M. McKEE, *Deputy Secretary*

This Department is essentially a service agency created by legislative enactment to deal with administrative, regulatory, investigational, and educational problems which can best be solved through public rather than individual action. The organization provides for coordination and cooperation with the Pennsylvania State College and the U. S. Department of Agriculture. The Department operates through the following bureaus:

### ANIMAL INDUSTRY: T. E. MUNCE, *Director and State Veterinarian.*

Prevents and Eradicates transmissible diseases of animals and poultry, including tuberculosis of animals in cooperation with Federal Government.

Demonstrates to veterinarians control methods for transmissible animal diseases; Supervises vaccination for and the prevention of hog cholera, anthrax, black leg and hemorrhagic septicemia;

Protects public from unwholesome meats through ante and post mortem examinations of animals at slaughtering establishments;

Inspects, licenses and furnishes information as to breeding, soundness and conformation of stallions and jacks standing for public service;

Enforces law requiring licensing of dogs and providing for protection of livestock and people from attacks of uncontrolled dogs;

Maintains laboratory for diagnostic research and experimental projects.

### PLANT INDUSTRY:

C. H. HADLEY, *Director.*

Tests agricultural seeds for purity and germination, and enforces State Seed Law;

Inspects orchards, parks, farms, and plant imports for injurious insects and plant diseases;

Inspects and licenses Pennsylvania nurseries, and licenses all dealers in nursery stock;

Enforces laws governing apicultural practices, disease control and housing;

Places and enforces quarantines and carries on eradication campaigns against insect pests and plant diseases;

Inspects and certifies potatoes for seed purposes;

Makes investigations for the control of injurious insects and plant diseases including field tests of insecticides, fungicides and weed killers;

Maintains collections of insects, plant diseases, plants, and seeds, and identifies specimens.

### FOODS AND CHEMISTRY: JAMES W. KELLOGG, *Director—Chief Chemist*

Accomplishes its purpose of protecting Pennsylvania homes against harmful foodstuffs by sampling, analyzing, and bringing prosecution under the laws relating to foods and non-alcoholic drinks, including milk, cream, butter, ice-cream, eggs, sausage, fresh meats, soft drinks, fruit syrups, vinegar and kindred food products;

Regulates and issues licenses for the manufacture and sale of oleomargarine;

Licenses and regulates egg-opening plants and cold storage warehouses, maintaining regular inspection and enforcing twelve-month storage limit;

Inspects milk plants and creameries and regulates weighing, testing, buying and selling of milk and cream on a butterfat basis;

Protects honest manufacturers, importers, selling agents and ultimate users of feeding stuffs, fertilizers, lime products, linseed oil, paint, putty, turpentine, insecticides and fungicides, by means of annual registrations followed by inspections, analyses, prosecutions and the publication of the analyses of these products;

Analyzes special samples for residents of the State at the rate of \$1.00 a sample for feeding stuffs, lime products and linseed oils.

### MARKETS:

P. R. TAYLOR, *Director*

Investigates and assists in the marketing of farm products; at present chiefly grain and hay, fruits and vegetables, poultry and eggs, and tobacco;

Compiles and distributes daily market information as to supplies, shipments and prices;

Advises growers on transportation of agricultural products;

Assists cooperative associations and public markets;

Establishes standard grades of farm products and maintains inspection.

### STATISTICS:

L. H. WIBLE, *Director.*

Assembles and disseminates essential statistics and facts pertaining to the agriculture of the State, from monthly reports rendered by hundreds of volunteer crop correspondents, information which assists the producer in his sales and interests all industries which deal with agricultural products;

Cooperates with U. S. Bureau of Agricultural Economics in joint crop and livestock reporting and publishes annual and monthly summaries of the data;

Compiles dates of county and local fairs and assemblies data pertaining to their success and results during each year.